CLAIMS

1. A highly corrosion-resistant hot dip plated steel material excellent in surface smoothness, characterized by having on the surface thereof a plated layer which contains Al of 4% or more in mass and has an Al-type intermetallic compound in an Al phase.

2. A highly corrosion-resistant hot dip plated steel material excellent in surface smoothness, characterized by having on the surface thereof a plated layer which contains Al of 4% or more in mass and has an Al-type intermetallic compound abutting on an Al phase.

3. A highly corrosion-resistant hot dip plated steel material excellent in surface smoothness according to claim 1 or 2, characterized in that said plated layer contains Al of 4 to 20% and Mg of 1 to 10% in mass with the balance consisting of Zn and unavoidable impurities.

4. A highly corrosion-resistant hot dip plated steel material excellent in surface smoothness according to claim 1 or 2, characterized in that said plated layer contains Al of 4 to 20%, Mg of 1 to 10% and Si of 0.001 to 2% in mass with the balance consisting of Zn and unavoidable impurities.

5. A highly corrosion-resistant hot dip plated steel material excellent in surface smoothness according to any one of claims 1 to 4, characterized by having on the surface thereof a plated layer containing an intermetallic compound having a melting point of 600°C or higher by 0.001 to 0.5% in mass.

6. A highly corrosion-resistant hot dip plated steel material excellent in surface smoothness, characterized in that at least one of the lattice constants of said intermetallic compound according to any one of claims 1 to 5 is in the range from 3 to 5 Å.

7. A highly corrosion-resistant hot dip plated steel material excellent in surface smoothness, characterized in that said intermetallic compound according to any one of claims 1 to 6 is one or more of

an Ni-Al-type intermetallic compound, a Ti-Al-type intermetallic compound, a Zr-Al-type intermetallic compound and an Sr-Al-type intermetallic compound.

8. A highly corrosion-resistant hot dip plated steel material excellent in surface smoothness, characterized in that said intermetallic compound according to any one of claims 1 to 7 is one or more of $TiAl_3$, $NiAl_3$, Co_2Al_9, Co_4Al_{13}, $CrAl_4$, $CrAl_7$, Cr_2Al_{11}, Mn_4Al_{11}, $MnAl_6$, $Al_{11}Ce_3$, $CeZn_2Al_2$, Al_9Ir_2, $Al_{11}La_3$, $Al_{12}Mo$, $NbAl_3$, Al_2Se_3, $TaAl_3$, $ZrAl_3$, Zr_2ZnAl_3, Al_2Ca, $Ti_7Al_6Si_{12}$, $FeNiAl_9$, Fe_3NiAl_{10}, $TiAl_2$, TiAl, Ni_2Al_3, NiAl and $SrAl_4$.

9. A highly corrosion-resistant hot dip plated steel material excellent in surface smoothness, characterized in that said Ti-Al-type intermetallic compound according to claim 7 is $Ti(Al_{1-X}Si_X)_3$.